



# Cambridge International AS & A Level

**INFORMATION TECHNOLOGY**

**9626/04**

Paper 4 Advanced Practical

**October/November 2022**

**2 hours 30 minutes**

You will need: Candidate source files (listed on page 2)

## INSTRUCTIONS

- Carry out every instruction in each task.
- Save your work using the file names given in the task as and when instructed.
- You must **not** have access to either the internet or any email system during this examination.
- You must save your work in the correct file format as stated in the tasks. If work is saved in an incorrect file format, you will **not** receive marks for that task.

## INFORMATION

- The total mark for this paper is 90.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **8** pages. Any blank pages are indicated.



You have been supplied with the following source files:

|                                       |                  |                            |
|---------------------------------------|------------------|----------------------------|
| <b>Students.csv</b>                   | <b>Plane.jpg</b> | <b>MouseOver_Task.html</b> |
| <b>Test_102_Student_Responses.csv</b> | <b>Sky.png</b>   | <b>TTCpale.png</b>         |
| <b>Test_Answers.rtf</b>               | <b>Cloud.png</b> | <b>MouseOver_Text.rtf</b>  |
| <b>Notifications_Template.rtf</b>     | <b>TTC.svg</b>   |                            |

Create a folder called **Examination**. You must save all your work in this folder.

Copy these files into this folder.

Do **not** delete these files when submitting your work.

Do **not** 'tidy' the folder by deleting files created at any stage of attempting the tasks.

*You must use the most efficient methods to solve each task. All work produced must be of a professional standard and contain your candidate details.*

### Task 1a

Open the .csv files to inspect the contents.

The **Students.csv** file contains details of students in classes FE1 to FE5 at the Tawara Technical College.

Students recently took multiple-choice tests where they had to select a single answer in the range a to e for each question, such as the one shown. There is one mark for a correct answer to each question.

The correct answers for the multiple-choice tests are provided in the **Test\_Answers.rtf** file.

The file **Test\_102\_Student\_Responses.csv** contains the students' responses to test 102.

Use a spreadsheet to record the mark for each question for every student who took test 102 and to calculate their total mark for the test.

Save your work as **Test\_102\_** followed by your centre number\_candidate number  
e.g. Test\_102\_ZZ999\_9999

Create a database with the same name as the spreadsheet.

Use this database to present the class results when a user enters the name of a class.

#### Question 6

Which of these SQL JOINS selects only the records in both tables?

- a) INNER JOIN
- b) LEFT JOIN
- c) RIGHT JOIN
- d) FULL JOIN
- e) FULL INNER JOIN

Create a database form named **Student Results** to display the results for the selected class. The form must look like this:

| Test 102 results for class: FE1 |                                       | Test 102 results for class: FE3 |                                     | Test 102 results for class: FE5 |                                      |
|---------------------------------|---------------------------------------|---------------------------------|-------------------------------------|---------------------------------|--------------------------------------|
| Student_ID                      | <input type="text" value="254"/>      | Student_ID                      | <input type="text" value="233"/>    | Student_ID                      | <input type="text" value="248"/>     |
| Given name                      | <input type="text" value="Samantha"/> | Given name                      | <input type="text" value="Mollie"/> | Given name                      | <input type="text" value="Eleanor"/> |
| Surname                         | <input type="text" value="Chapman"/>  | Surname                         | <input type="text" value="Cooke"/>  | Surname                         | <input type="text" value="Stone"/>   |
| Class                           | <input type="text" value="FE1"/>      | Class                           | <input type="text" value="FE3"/>    | Class                           | <input type="text" value="FE5"/>     |
| <b>Question/Marks</b>           |                                       | <b>Question/Marks</b>           |                                     | <b>Question/Marks</b>           |                                      |
| Q1                              | <input type="text" value="0"/>        | Q14                             | <input type="text" value="0"/>      | Q1                              | <input type="text" value="0"/>       |
| Q2                              | <input type="text" value="0"/>        | Q15                             | <input type="text" value="1"/>      | Q2                              | <input type="text" value="0"/>       |
| Q3                              | <input type="text" value="0"/>        | Q16                             | <input type="text" value="0"/>      | Q3                              | <input type="text" value="0"/>       |
| Q4                              | <input type="text" value="1"/>        | Q17                             | <input type="text" value="1"/>      | Q4                              | <input type="text" value="0"/>       |
| Q5                              | <input type="text" value="1"/>        | Q18                             | <input type="text" value="1"/>      | Q5                              | <input type="text" value="0"/>       |
| Q6                              | <input type="text" value="0"/>        | Q19                             | <input type="text" value="1"/>      | Q6                              | <input type="text" value="0"/>       |
| Q7                              | <input type="text" value="0"/>        | Q20                             | <input type="text" value="1"/>      | Q7                              | <input type="text" value="0"/>       |
| Q8                              | <input type="text" value="0"/>        | Q21                             | <input type="text" value="1"/>      | Q8                              | <input type="text" value="0"/>       |
| Q9                              | <input type="text" value="1"/>        | Q22                             | <input type="text" value="1"/>      | Q9                              | <input type="text" value="0"/>       |
| Q10                             | <input type="text" value="0"/>        | Q23                             | <input type="text" value="1"/>      | Q10                             | <input type="text" value="0"/>       |
| Q11                             | <input type="text" value="0"/>        | Q24                             | <input type="text" value="1"/>      | Q11                             | <input type="text" value="1"/>       |
| Q12                             | <input type="text" value="0"/>        | Q25                             | <input type="text" value="1"/>      | Q12                             | <input type="text" value="0"/>       |
| Q13                             | <input type="text" value="0"/>        | Score                           | <input type="text" value="13"/>     | Q13                             | <input type="text" value="0"/>       |
|                                 |                                       |                                 |                                     | Score                           | <input type="text" value="9"/>       |

The pass mark for test 102 is 13 marks.  
 Students who score 10, 11 or 12 marks may resit the test.  
 Students who score less than 10 marks must retake the course.

Amend the *Student Results* form to display this information like this:

| Test 102 results for class: FE1 |  | Test 102 results for class: FE3 |  | Test 102 results for class: FE5 |   |
|---------------------------------|--|---------------------------------|--|---------------------------------|---|
| Student_ID                      | <input type="text" value="254"/>             | Student_ID                      | <input type="text" value="233"/>                   | Student_ID                      | <input type="text" value="248"/>                      |
| Given name                      | <input type="text" value="Samantha"/>        | Given name                      | <input type="text" value="Mollie"/>                | Given name                      | <input type="text" value="Eleanor"/>                  |
| Surname                         | <input type="text" value="Chapman"/>         | Surname                         | <input type="text" value="Cooke"/>                 | Surname                         | <input type="text" value="Stone"/>                    |
| Class                           | <input type="text" value="FE1"/> <b>PASS</b> | Class                           | <input type="text" value="FE3"/> <b>Resit Test</b> | Class                           | <input type="text" value="FE5"/> <b>Retake Course</b> |
| <b>Question/Marks</b>           |  | <b>Question/Marks</b>           |  | <b>Question/Marks</b>           |   |
| Q1                              | <input type="text" value="0"/>               | Q14                             | <input type="text" value="0"/>                     | Q1                              | <input type="text" value="0"/>                        |
| Q2                              | <input type="text" value="0"/>               | Q15                             | <input type="text" value="1"/>                     | Q2                              | <input type="text" value="0"/>                        |
| Q3                              | <input type="text" value="0"/>               | Q16                             | <input type="text" value="0"/>                     | Q3                              | <input type="text" value="0"/>                        |
| Q4                              | <input type="text" value="1"/>               | Q17                             | <input type="text" value="1"/>                     | Q4                              | <input type="text" value="0"/>                        |
| Q5                              | <input type="text" value="1"/>               | Q18                             | <input type="text" value="1"/>                     | Q5                              | <input type="text" value="0"/>                        |
| Q6                              | <input type="text" value="0"/>               | Q19                             | <input type="text" value="1"/>                     | Q6                              | <input type="text" value="0"/>                        |
| Q7                              | <input type="text" value="0"/>               | Q20                             | <input type="text" value="1"/>                     | Q7                              | <input type="text" value="0"/>                        |
| Q8                              | <input type="text" value="0"/>               | Q21                             | <input type="text" value="1"/>                     | Q8                              | <input type="text" value="0"/>                        |
| Q9                              | <input type="text" value="1"/>               | Q22                             | <input type="text" value="1"/>                     | Q9                              | <input type="text" value="0"/>                        |
| Q10                             | <input type="text" value="0"/>               | Q23                             | <input type="text" value="1"/>                     | Q10                             | <input type="text" value="0"/>                        |
| Q11                             | <input type="text" value="0"/>               | Q24                             | <input type="text" value="1"/>                     | Q11                             | <input type="text" value="1"/>                        |
| Q12                             | <input type="text" value="0"/>               | Q25                             | <input type="text" value="1"/>                     | Q12                             | <input type="text" value="0"/>                        |
| Q13                             | <input type="text" value="0"/>               | Score                           | <input type="text" value="13"/>                    | Q13                             | <input type="text" value="0"/>                        |
|                                 |  |                                 |  | Score                           | <input type="text" value="9"/>                        |

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## Task 1b

You are required to mail merge notifications of results to students in Class FE1. You will need to amend your spreadsheet to complete this task.

In addition to the *Student\_ID*, *Name*, *Class* and *Score*, each notification letter must display text informing students whether their result is a pass or whether they need to resit the test or retake the course.

Each letter must also display a list of the question numbers that the student answered incorrectly.

Open the **Notifications\_Template** file to see how the information must be displayed.

To include the conditional information, follow these rules:

*For students who scored 13 or more marks display the text:*

**This is a Pass mark.**

*For students who scored 10, 11 or 12 marks display the text:*

**Please arrange to resit the test.**

*For students who scored less than 10 marks display the text:*

**You will need to retake the course.**

*For students who answered all the questions correctly display the following text:*

**You answered all the questions correctly.**

*For students who did not answer all the questions correctly display the following text:*

**You answered the following questions incorrectly:**

*followed by a list of the question numbers the student answered incorrectly.*

## Examples

| Test result notification  | Test result notification  |
|---|---|
| Student ID: 232<br>Name: Jessica Hughes<br>Class: FE1<br>Your score for test 102 was 25.<br>This is a pass mark.<br>You answered all the questions correctly. | Student ID: 306<br>Name: Rhys Manning<br>Class: FE1<br>Your score for test 102 was 12.<br>Please arrange to resit the test.<br>You answered the following questions incorrectly:<br>Q1, Q2, Q3, Q4, Q5, Q6, Q16, Q18, Q19, Q22, Q23, Q24, Q25 |

## Hint:

In order to create the list of questions answered incorrectly use the TEXTJOIN() function.

|  |     |  |     |     |     |  |  |  |
|--|-----|--|-----|-----|-----|--|--|--|
|  |     |  |     |     |     |  |  |  |
|  | Q21 |  | Q23 | Q24 | Q25 | =TEXTJOIN(                             |  |  |
|  |     |  |     |     |     | TEXTJOIN(delimiter, ignore_empty, text |  |  |

Save the merge document as **NotificationsMergeDoc\_102\_** followed by your centre number\_candidate number

e.g. NotificationsMergeDoc\_102\_ZZ999\_9999

Merge the letters in descending order of the student score.

Save the merge letters as **Notification\_Letters\_102\_** followed by your centre number\_candidate number

e.g. Notification\_Letters\_102\_ZZ999\_9999

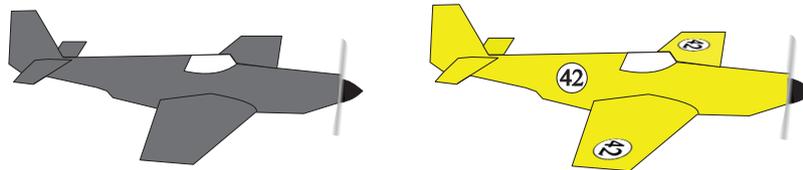
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## Task 2

Create an accurate vector graphic copy of the aeroplane shown in the **Plane.jpg** image.

The new aeroplane should be coloured pure yellow as shown.

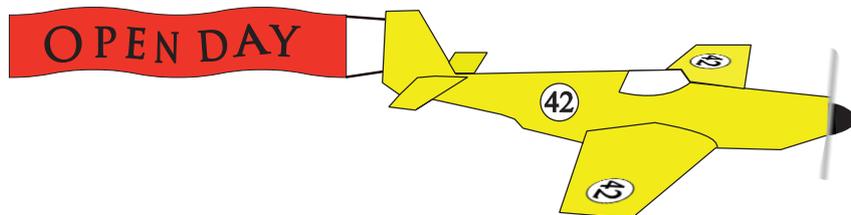
Add the designs to the body and the wings as shown.



Save the image in **.svg** format as **VPlane\_** followed by your centre number\_candidate number

e.g. VPlane\_ZZ999\_9999

Add a ribbon streamer to the tail of the *VPlane* image as shown.



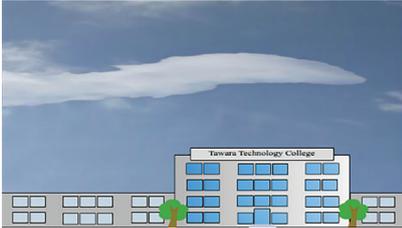
Save the image in **.svg** format as **VPlanePlus\_** followed by your centre number\_candidate number

e.g. VPlanePlus\_ZZ999\_9999

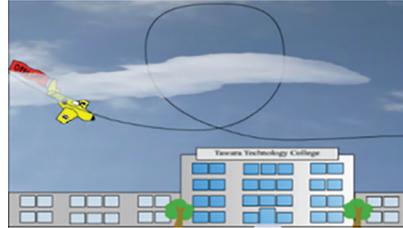
[10]

### Task 3

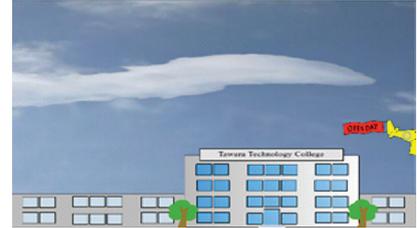
In an animation application set a stage/frame size to 1280px wide by 720px high.



Use the **Sky.png**, **Cloud.png** and **TTC.svg** image files to create the background as shown.



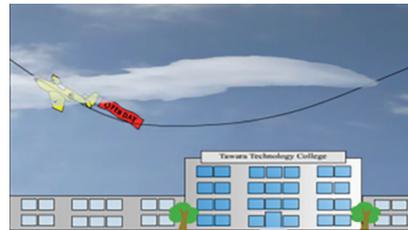
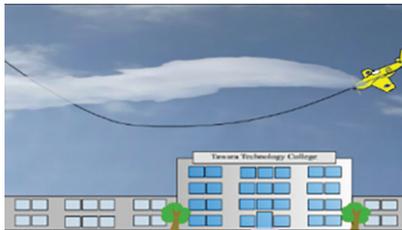
Use your *VPlanePlus* image to create an animation of the aeroplane.



The aeroplane must take 6 seconds to enter from the left, follow the looped path and leave the frame on the right.

Note:

- the size of the *VPlanePlus* image must match the size shown in this example
- the path of the aeroplane is behind the cloud image
- the cloud is partially transparent.



1 second after the aeroplane has left the frame it must reappear from the right and take 6 seconds to follow the new path shown and leave the frame. After 1 second the animation must restart.

Save the animation as an animated **.gif** file named **OpenDay\_** followed by your centre number\_ candidate number

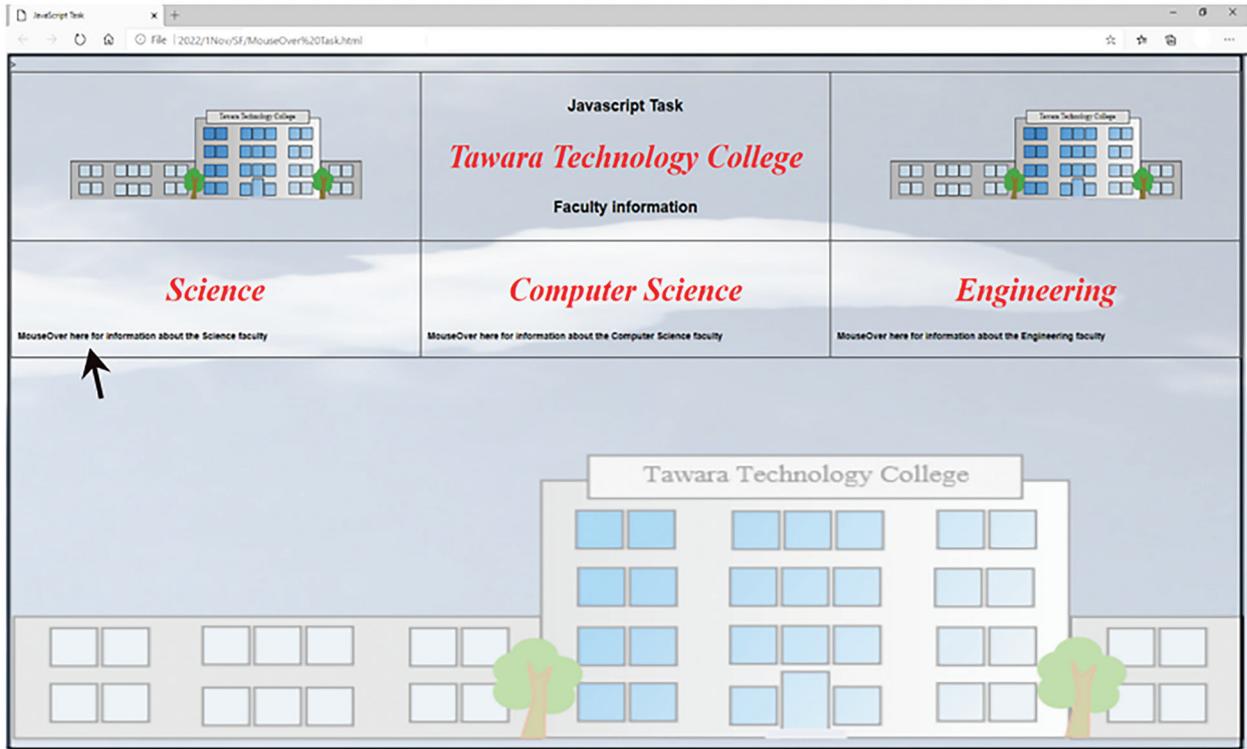
e.g. OpenDay\_ZZ999\_9999

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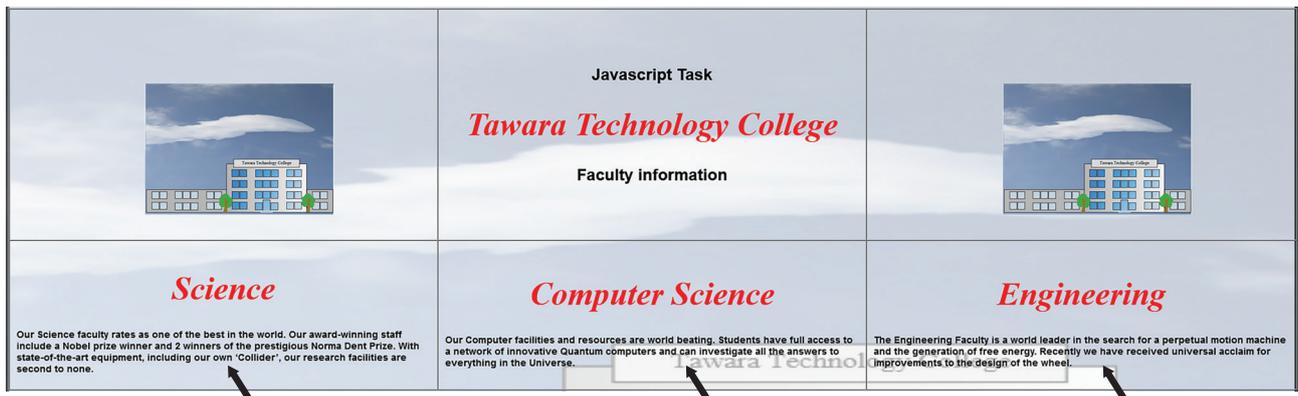
## Task 4

Open **MouseOver\_Task.html** in a text editor.

Open **MouseOver\_Task.html** in a browser.



You are required to add JavaScript code to the *MouseOver\_Task.html* file to display the text provided in the **MouseOver\_Text.rtf** file when the mouse cursor hovers over the instruction.



Annotate your code with comments to explain each stage of the script.

Save the webpage as **TTC\_Info\_** followed by your centre number\_candidate number e.g. **TTC\_Info\_ZZ999\_9999**

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